NJD 002325074 1383

LENOX

September 25, 2003

Mr. Frank Faranca
Case Manager, Bureau of Publicly Funded Site Remediation
New Jersey Department of Environmental Protection
401 E. State Street P.O. Box 028
5th Floor West
Trenton NJ 08625-0028

RE: NJPDES-DGW Permit 0086487 Effective March 1, 2000

Dear Mr. Faranca:

Two copies of the Discharge to Groundwater Report consisting of one (1) T-VWX-014, seven (7) VWX-015 Groundwater Analysis – Monitoring Well reports and report Sections 1.0 through 8.0 for the July through September 2003 quarter are enclosed.

Detection Monitoring was performed in accordance with Part 4-DGW Table 2, using the Ground Water Sampling and Analysis Plan approved in April 1996.

Lenox inspection logs were reviewed and a summary of the logs for the quarter is enclosed.

The "Mann-Whitney U-Test" statistical analysis of the ground water TCE results from the five (5) sentinel wells over eight (8) sampling quarters was rolled forward fifteen (15) quarters to cover the July 2003 data and is included in section 7 of the report. The null-hypothesis is accepted for sentinel wells MW-75, MW-76, MW-78 and MW-79A and we cannot statistically conclude that the TCE concentrations are decreasing for the fifeenth quarter's data set. The null-hypothesis is **not accepted** for sentinel well. MW-77 and we can statistically conclude that the TCE concentration is decreasing for the past eight quarters' data set. In addition, MW-75 has been non-detect for the past sixteen consecutive quarters respectively.

The **bold** data in the tables denotes elevated results, which exceed the site-specific GWQC's for lead (10ug/l) and zinc (36.7 ug/l) as determined by calculating their arithmetic means from data reported in a 3-year study. Trichloroethylene levels are compared to the New Jersey limit of 1.0 ppb. Please note:

- MW-3 showed elevated levels of both total and dissolved lead, while MW-4, MW-72 and MW-73 showed elevated levels of total lead, but not dissolved lead;
- MW-3, MW-4, MW-17, MW-25, and B-31, showed elevated levels of both total and dissolved zinc, while MW-72, MW-73 and MW-74 showed only elevated total zinc

651287

LENOX TECHNICAL SERVICES, TILTON ROAD, POMONA, NJ 08240 TEL. 609-965-8260 FAX 609-965-8282

Re: NJPDES-DGW Permit 0086487 Effective March 1, 2000

- Of the fifteen (15) wells sampled for TCE this quarter, one (1), B-59 was higher than the last round. Six (6) wells decreased, MW-15, MW-25, B-31, MW-77, MW-78 and MW-79A. Eight (8) wells, MW-1, MW-10, MW-12S ,MW-13, MW-75, MW-76, MW-80 and MW-81 remained essentially the same;
- TCE was elevated in one (1) of the five (5) downgradient sentinel wells, MW-78, Three (3) of these sentinel wells decreased;
- The volatile organic compound cis-1,2-dichloroethene was detected in well, B-31. TCE daughter species were not detected in any other wells;
- The Monthly Daily Average Flows for the quarter were 311,767 gallons per day for June, 323,527 gallons per day for July and 324,790 gallons per day for August 2003;
- GAC Treatment System influent, mid and effluent unfiltered, water samples contained elevated zinc at 40, 10 and 90 ug/L - respectively and only the filtered effluent contained contained elevated zinc at 80 ug/L. The zinc is attributed to the higher zinc levels previously observed in B-31 and other wells;
- Lead was detected in the GAC Treatment System, filtered and unfiltered, influent, mid and effluent water samples.

Please call (609) 965-8272 if there are any questions.

Sincerely,

John F. Kinkela
Director of Environmental Engineering

Enclosures -Pomona DGW and TCE Quarterly Groundwater Monitoring Report – July 2003 Monitoring Round
-Summary of Inspection Logs – July through September 2003 Quarter

bcc: J.H. Ennis (w/attachments)
L.A. Fantin, Lenox (w/attachments)
Andrew Park (w/attachments)
File

NE W JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Form T-VWX-14

MONITORING REPORT - TRANSMITTAL SHEET

NJPDES No.	REPORTING PERIOD MO YR		MO YR
0 0 8 6 4 8 7	0 7 0 3	thru	0 9 0 3

PERMITEE: Name LENOX INCORPORATED
Address 100 LENOX DRIVE
LAWRENCEVILLE, NEW JERSEY 08648

FACILITY: Name LENOX CHINA, A DIVISION OF LENOX INCORPORATED
Address TILTON ROAD
POMONA, NEW JERSEY 08240 (County) ATLANTIC
Telephone (609) 965-8272

FORMS ATTACHED ***(Indicate Quantity of Each)***

SLUDGE REPORTS - SANITARY

☐ T-VWX-007 ☐ T-VWX-008 ☐ T-VWX-009

SLUDGE REPORTS - INDUSTRIAL

☐ T-VWX-010A ☐ T-VWX-010B

WASTEWATER REPORTS

☐ T-VWX-011 ☐ T-VWX-012 ☐ T-VWX-013A

GROUNDWATER REPORT *(As per permit)*

☑ 7 VWX-015 ☐ VWX-016 ☐ VWX-017

NJPDES DISCHARGE MONITORING REPORT

☐ EPA FORM 3320-01

OPERATING EXCEPTIONS

	YES	NO
DYE TESTING	☐	☐
TEMPORARY BYPASSING	☐	☐
DISINFECTION INTERRUPTION	☐	☐
MONITORING MALFUNCTIONS	☐	☐
UNITS OUT OF OPERATION	☐	☐
OTHER	☐	☐

(Detail any "yes" on reverse side in appropriate space.)

AUTHENTICATION - I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment

LICENSED OPERATOR

Name _____

Grade & Registry No. _____

Signature _____

PRINCIPAL EXECUTIVE OFFICER or
DULY AUTHORIZED REPRESENTATIVE

Name JOHN F. KINKELA

Title DIR. OF ENVIRONMENTAL ENGINEERING

Signature John F. Kinkela 9-24-03

Gannett Fleming

LENOX CHINA

A DIVISION OF LENOX, INC.

POMONA, NEW JERSEY

POMONA DGW AND TCE QUARTERLY GROUNDWATER MONITORING REPORT JULY 2003 MONITORING ROUND

PROJECT #42430.001/.002

SEPTEMBER 2003

Office Location:

GANNETT FLEMING

202 Wall Street

Princeton, New Jersey 08540

Office Contacts:

James M. Barish, CPG

Robyn Berner

(609) 279-9140

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FIGURES

APPENDICES

1.0 INTRODUCTION

This report summarizes the results of the groundwater monitoring programs that satisfy the requirements outlined in Lenox's NJPDES Discharge to Groundwater (DGW) permit (permit number NJ0086487) and the Memorandum of Agreement (MOA) between Lenox and NJDEP. All groundwater monitoring and analytical procedures were conducted in accordance with the protocols outlined in the most recently revised Groundwater Sampling and Analysis Plan (GWSAP) and Supplemental Groundwater Sampling and Analysis Plan (SGWSAP) approved by NJDEP.

This report presents the DGW and MOA sampling program data in a single document. The report components are as follows:

- Detection Monitoring Program
- GAC Treatment System Monitoring Program
- Depth to Water and Water Level Elevation Measurements
- TCE Monitoring Program
- SWMU No. 2 and Area of Concern Monitoring Program
- Classification Exception Area/Statistical Analysis Program
- Residential Well Sampling

The first three items satisfy the DGW permit monitoring requirements while the remaining items fulfill the requirements of the MOA.

2.0 DETECTION MONITORING PROGRAM (DGW)

The quarterly detection monitoring program is covered by the GWSAP and consists of the following for the third quarter:

- Sample monitoring wells MW-1, MW-3, MW-4, MW-6, MW-9 and MW-10.
- All samples are analyzed for color and total and dissolved lead and zinc. Samples from MW-1 and MW-10 are also analyzed for total suspended solids (TSS), total dissolved solids (TDS), and total and dissolved iron.
- Specific conductivity, pH, temperature and dissolved oxygen are measured in the field during purging and prior to sample collection.

Table 1, Section 2 summarizes the results of the current sampling event. The full laboratory data report is provided in Appendix C. Tables 2 through 7 summarize historical sampling results for each well since 1996.

The July 2003 monitoring results are summarized below:

- Total lead concentrations ranged from less than the laboratory reporting limit of 3.0 micrograms per liter (µg/l) to 69.0 µg/l, with the highest concentration in the sample from MW-3. Dissolved lead concentrations ranged from less than the laboratory reporting limit of 3.0 µg/l to 44.6 µg/l, with the highest concentration in the sample from MW-3.

- Total zinc concentrations ranged from less than the laboratory reporting limit of 20 µg/l to 3,810 µg/l, with the highest concentration in the sample from MW-3. Dissolved zinc concentrations ranged from less than the laboratory reporting limit of 20 µg/l to 3,840 µg/l, with the highest concentration also in the sample from MW-3.

- Iron was analyzed only in the samples from MW-1 and MW-10. Total iron was detected at concentrations of 2,990 µg/l in MW-1 and 1,490 µg/l in MW-10. Dissolved iron was

not detected in either sample at concentrations exceeding the 100 µg/l laboratory reporting limit.

- TDS concentrations were 100 milligrams per liter (mg/l) in MW-1 and 95 mg/l in MW-10. TSS concentrations were 9.0 mg/l in MW-1 and 11 mg/l in MW-10.

- Color concentrations ranged from less than the reporting limit of 5 color units (MW-6) to 50 color units (MW-1 and MW-10).

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POMONA, NEW JERSEY

TABLE 1 SECTION 2
GROUNDWATER QUALITY DATA - JULY 2003

Parameter	Units	MW-1	MW-3	MW-4	MW-6	MW-9	MW-10	MW-2 (MW-10 Dup)	FB	TB
pH, Field	pH units	4.81	5.31	5.73	4.31	5.79	5.39	5.39	-	-
Specific Conductance	ms	0.075	0.392	0.225	0.180	0.276	0.132	0.132	-	-
Oxygen, Dissolved	mg/l	5.70	-	-	-	-	-	-	-	-
Temperature, Field	°C	15.4	21.2	19.9	15.4	16.2	16.5	16.5	-	-
Total Suspended Solids	mg/l	9.0	-	-	-	-	11	10	<4.0	-
Total Dissolved Solids	mg/l	100	-	-	-	-	95	118	<10	-
Ammonia-Nitrogen	mg/l	-	-	-	-	-	-	-	-	-
Color	CU units	50	15	10	<5	5	50	45	<5	-
Sulfate	mg/l	-	-	-	-	-	-	-	-	-
Iron, Dissolved	µg/l	<100	-	-	-	-	<100	<100	<100	-
Lead, Dissolved	µg/l	<3.0	**44.6**	4.1	<3.0	<3.0	<3.0	<3.0	<3.0	-
Sodium, Dissolved	µg/l	-	-	-	-	-	-	-	-	-
Zinc, Dissolved	µg/l	<20	**3,840**	**84.4**	<20	<20	<20	<20	<20	-
Iron, Total	µg/l	2,990	-	-	-	-	1,490	1,310	<100	-
Lead, Total	µg/l	5.7	**69.0**	6.9	<3.0	<3.0	<3.0	<3.0	<3.0	-
Sodium, Total	µg/l	-	-	-	-	-	-	-	-	-
Zinc, Total	µg/l	<20	**3,810**	**87.5**	<20	<20	<20	<20	<20	-
Volatile Organic Compounds										
1,1-Dichloroethene	µg/l	<0.43	-	-	-	-	<0.43	<0.43	<0.43	<0.43
Cis-1,2-Dichloroethene	µg/l	<0.20	-	-	-	-	<0.20	<0.20	<0.20	<0.20
Trans-1,2-Dichloroethene	µg/l	<0.53	-	-	-	-	<0.53	<0.53	<0.53	<0.53
Methylene Chloride	µg/l	<0.64	-	-	-	-	<0.64	<0.64	<0.64	<0.64
Trichloroethene (TCE)	µg/l	<0.19	-	-	-	-	<0.19	<0.19	<0.19	<0.19
Vinyl Chloride	µg/l	<0.67	-	-	-	-	<0.67	<0.67	<0.67	<0.67
Sum of Volatile Organic Compounds	µg/l	<1.33	-	-	-	-	<1.33	<1.33	<1.33	<1.33

Notes:
- = Not Analyzed < = Not Detected J = Estimated Value
Values in **bold** font exceed the site specific Groundwater Quality Criteria for Lead (10 µg/l), Zinc (36.7 µg/l) and TCE (1.0 µg/l).

4.0 DEPTH TO WATER, WATER LEVEL ELEVATIONS, AND TREATMENT SYSTEM FLOW MONITORING (DGW)

4.1 Depth to Water and Water Level Elevations

The July 22, 2003 depth to water and water level elevation data is summarized in Table 1, Section 4. Depths to water in the wells on the south and north sides of the plant that screen the same interval as the recovery wells were used to develop the water level elevation and groundwater flow map (Figure 1). As shown in Figure 1, the groundwater flow direction is to the northeast, which is consistent with previous measurements. In early July 2002 Lenox rerouted the GAC treatment system effluent to the Blue Heron Pines Golf Course on Tilton Road for use as spray irrigation on the golf course property. The lack of groundwater mounding beneath Recharge Area Nos. 1 and 2 on the Lenox property is a direct result of the modified water management approach.

The depth to water measurements in the well points installed downgradient of the recovery wells were plotted to develop the water level elevation and groundwater flow direction maps shown in Figures 2 and 3.

4.2 Treatment System Flow Monitoring

In a letter to Lenox dated April 18, 2000, NJDEP requested that Lenox propose an "Average Daily Volume" (ADV) that would represent the minimum pumping volume required to adequately capture the TCE plume. The ADV would be calculated by dividing the total volume of groundwater extracted by the recovery system each month by the number of days in the month and would be reported quarterly to NJDEP. In a letter to NJDEP dated May 19, 2000, Lenox proposed an ADV of 268,000 gallons per day, which was based on the results of groundwater modeling and the empirical water level and groundwater chemistry data developed since the recovery system started in 1991.

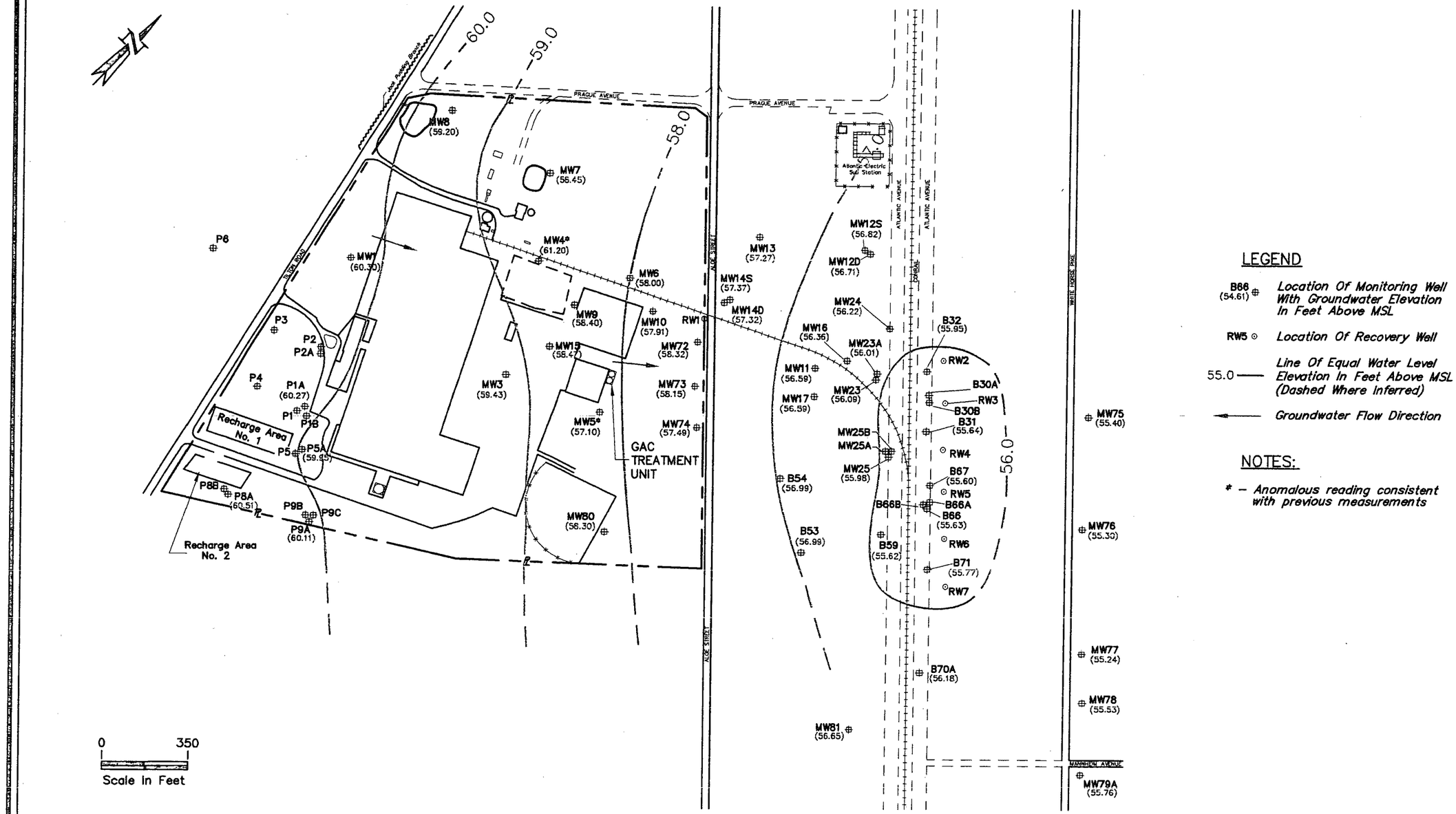
During the period June 1 through June 30, 2003, the calculated ADV was 311,767 gallons per day. During the period July 1 through July 31, 2003, the calculated ADV was 323,527 gallons per day. During the period August 1 through August 31, 2003, the calculated ADV was 324,790 gallons per day.

LENOX CHINA FACILITY AND ADJACENT AREA
POMONA, NEW JERSEY

TABLE 1 SECTION 4

WATER LEVEL MEASUREMENTS, JULY 22, 2003

Well No.	Measuring Point Elevation (ft. above mean sea level)	Depth to Water (ft. below MP)	Water Level Elevation (ft. above mean sea level)
P1	65.69	5.64	60.05
P1A	66.32	6.05	60.27
P1B	66.34	6.11	60.23
P5	66.74	5.32	61.42
P5A	66.74	6.79	59.95
P8A	70.02	9.51	60.51
P8B	70.07	8.97	61.10
P9A	70.90	10.79	60.11
P9B	70.97	10.94	60.03
P9C	71.31	10.96	60.35
MW1	69.28	8.98	60.30
MW3	67.09	7.66	59.43
MW4	66.98	5.78	61.20
MW5	64.17	7.07	57.10
MW6	65.08	7.08	58.00
MW7	67.31	8.86	58.45
MW8	67.16	7.96	59.20
MW9	69.51	11.11	58.40
MW10	63.51	5.60	57.91
MW11	63.05	6.46	56.59
MW12D	62.89	6.18	56.71
MW12S	62.62	5.80	56.82
MW13	64.66	7.39	57.27
MW14D	63.63	6.31	57.32
MW14S	63.64	6.27	57.37
MW15	66.07	7.60	58.47
MW16	62.07	5.71	56.36
MW17	62.09	5.50	56.59
MW23	61.49	5.40	56.09
MW23A	61.78	5.77	56.01
MW24	62.60	6.38	56.22
MW25	61.13	5.15	55.98
MW25A	61.29	5.29	56.00
MW25B	61.22	5.21	56.01
MW26A (B30A)	62.48	6.68	55.80
MW26B (B30B)	61.65	5.90	55.75
MW72	64.19	5.87	58.32
MW73	63.06	4.91	58.15
MW74	62.56	5.07	57.49
MW75	60.15	4.75	55.40
MW76	60.60	5.30	55.30
MW77	60.41	5.17	55.24
MW78	59.84	4.31	55.53
MW79A	60.51	4.75	55.76
MW80	62.49	4.19	58.30
MW81	61.90	5.25	56.65
B31	62.19	6.55	55.64
B32	63.29	7.34	55.95
B53	62.31	5.32	56.99
B54	62.39	5.40	56.99
B59	60.02	4.40	55.62
B66	61.71	6.08	55.63
B66A	61.60	5.84	55.76
B66B	61.86	6.08	55.78
B67	62.29	6.69	55.60
B70A	61.39	5.21	56.18
B71	62.31	6.54	55.77
PZ1S	60.27	4.70	55.57
PZ1D	60.52	4.95	55.57
PZ2S	60.52	6.40	54.12
PZ2D	60.70	5.12	55.58
PZ3S	61.47	5.92	55.55
PZ3D	61.60	6.05	55.55
PZ4S	60.80	5.20	55.60
PZ4D	61.09	5.55	55.54
PZ5S	60.47	4.80	55.67
PZ5D	60.56	4.95	55.61
PZ6S	60.79	5.16	55.63
PZ6D	60.73	5.11	55.62



LEGEND

- B66 (54.61) ⊕ — *Location Of Monitoring Well With Groundwater Elevation In Feet Above MSL*
- RW5 ⊙ — *Location Of Recovery Well*
- 55.0 —— *Line Of Equal Water Level Elevation In Feet Above MSL (Dashed Where Inferred)*
- ←—— *Groundwater Flow Direction*

NOTES:

* – *Anomalous reading consistent with previous measurements*

FIGURE NO: 1 GROUNDWATER FLOW MAP, JULY 22, 2003
LENOX CHINA
POMONA, NEW JERSEY

Source: Base Map Obtained From Geraghty & Miller's August 1992 Groundwater Monitoring Report

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PRINCETON, NEW JERSEY

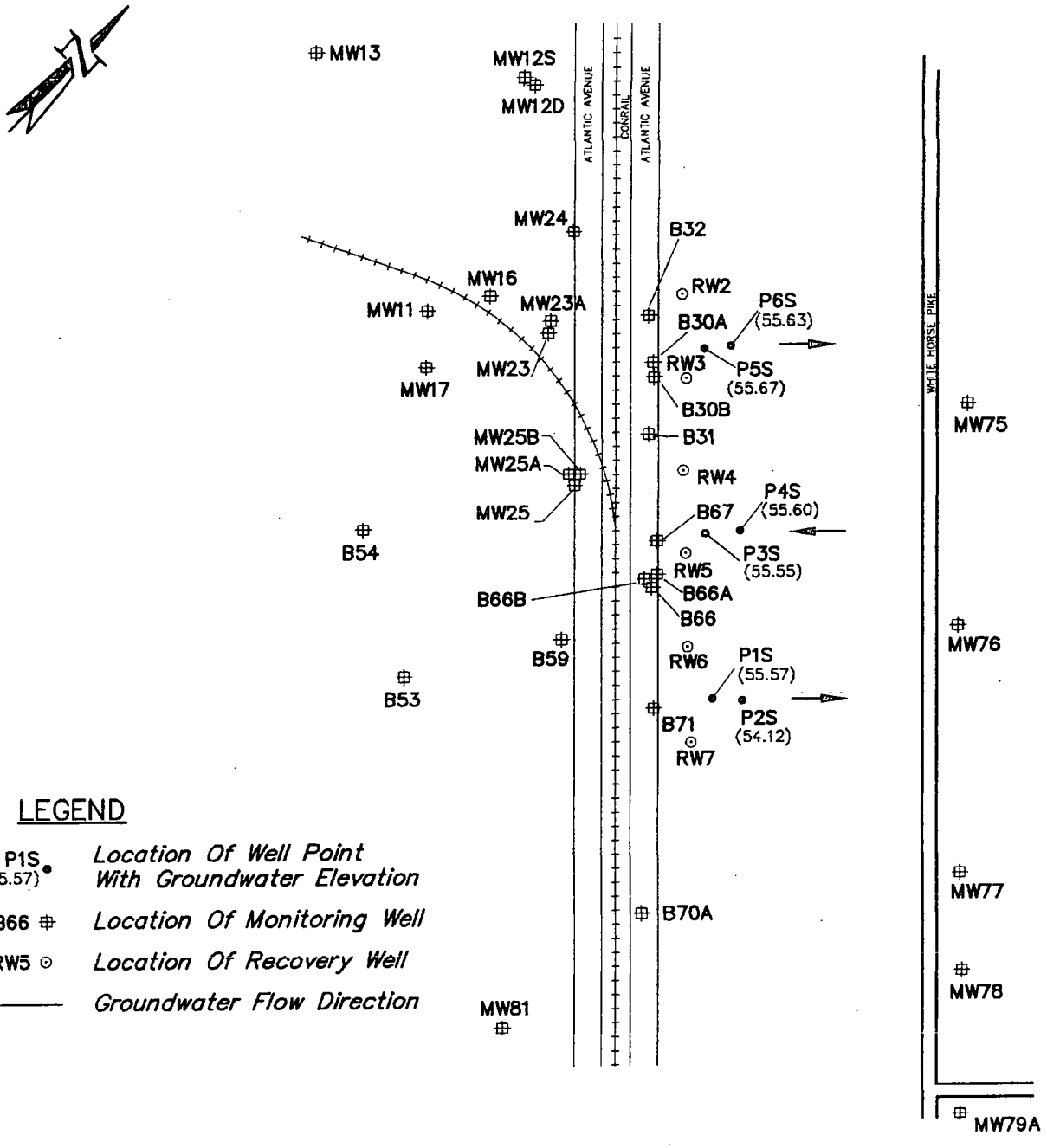

FIGURE NO: 2 GROUNDWATER FLOW MAP, SHALLOW WELLS JULY 22, 2003

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POMONA, NEW JERSEY

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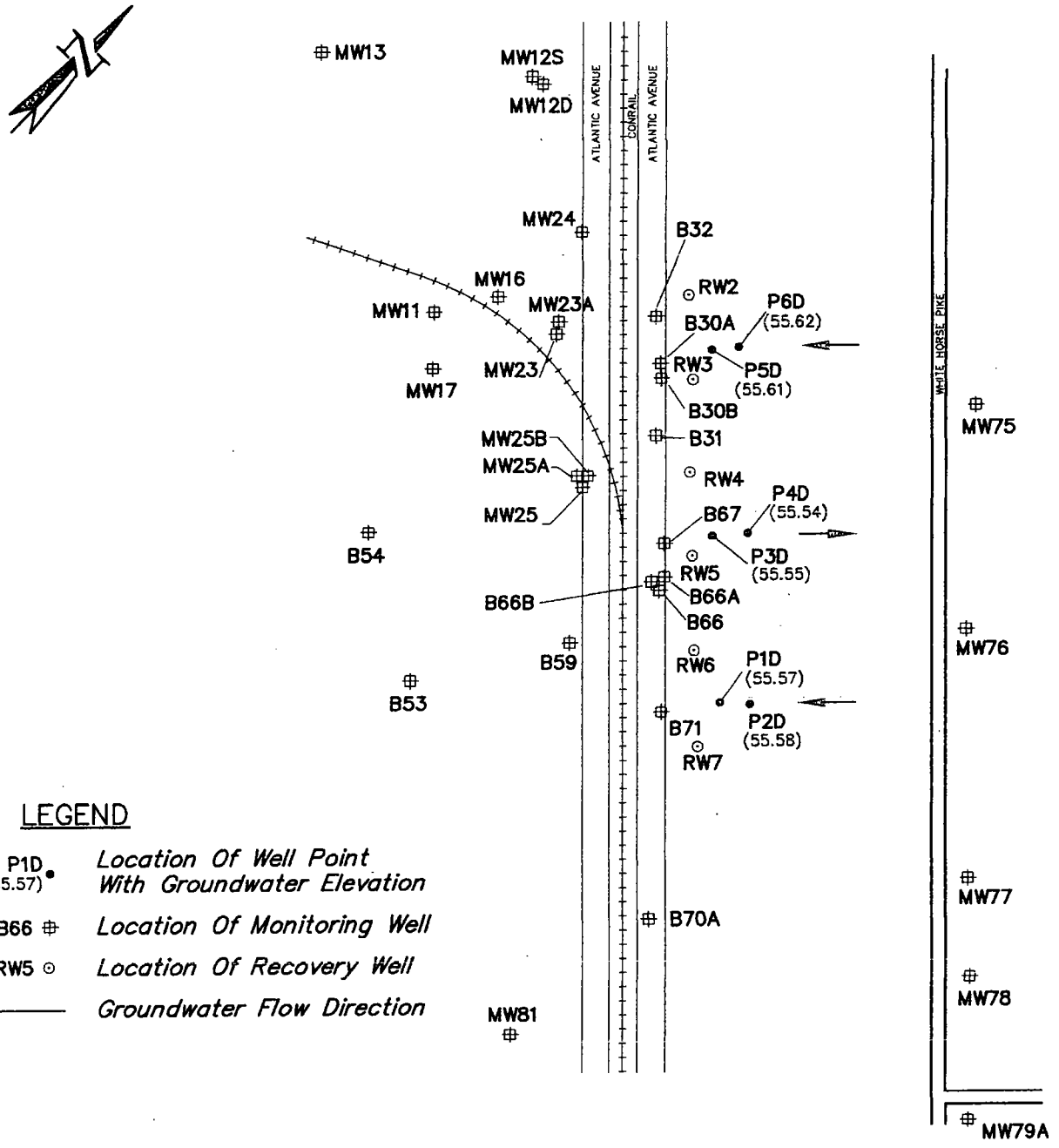

LEGEND

P1D (55.57) •	*Location Of Well Point With Groundwater Elevation*
B66 ⊕	*Location Of Monitoring Well*
RW5 ⊙	*Location Of Recovery Well*
←	*Groundwater Flow Direction*

NOTE:

Base Map Obtained From Geraghty & Miller's August 1992 Groundwater Monitoring Report.

0 300

Scale In Feet

FIGURE NO: 3 GROUNDWATER FLOW MAP, DEEP WELLS JULY 22, 2003

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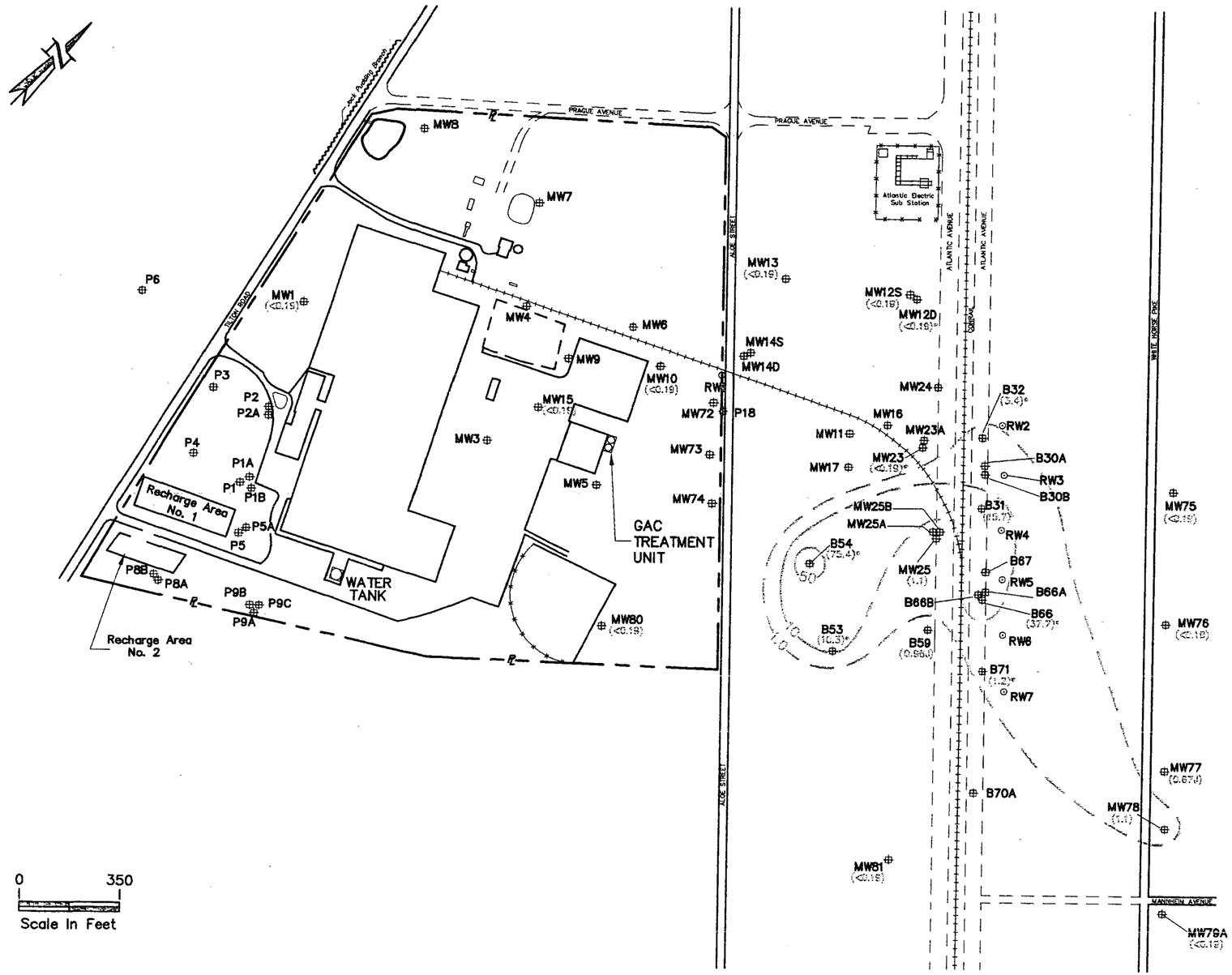

LEGEND

MW1 (<0.19) — *Location Of Monitoring Well With TCE Concentration in ug/l*

RW5 — *Location Of Recovery Well*

1.0 — *Line Of Equal TCE Concentration in ug/l (Dashed Where Inferred)*

NOTE:

** = Annually sampled wells. Results from April 2003 sampling round.*

FIGURE NO: 4 EXTENT OF TRICHLOROETHYLENE IN GROUNDWATER, JULY 22-24, 2003

LENOX CHINA

POMONA, NEW JERSEY

Source: Base Map Obtained From Geraghty & Miller's August 1992 Groundwater Monitoring Report

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